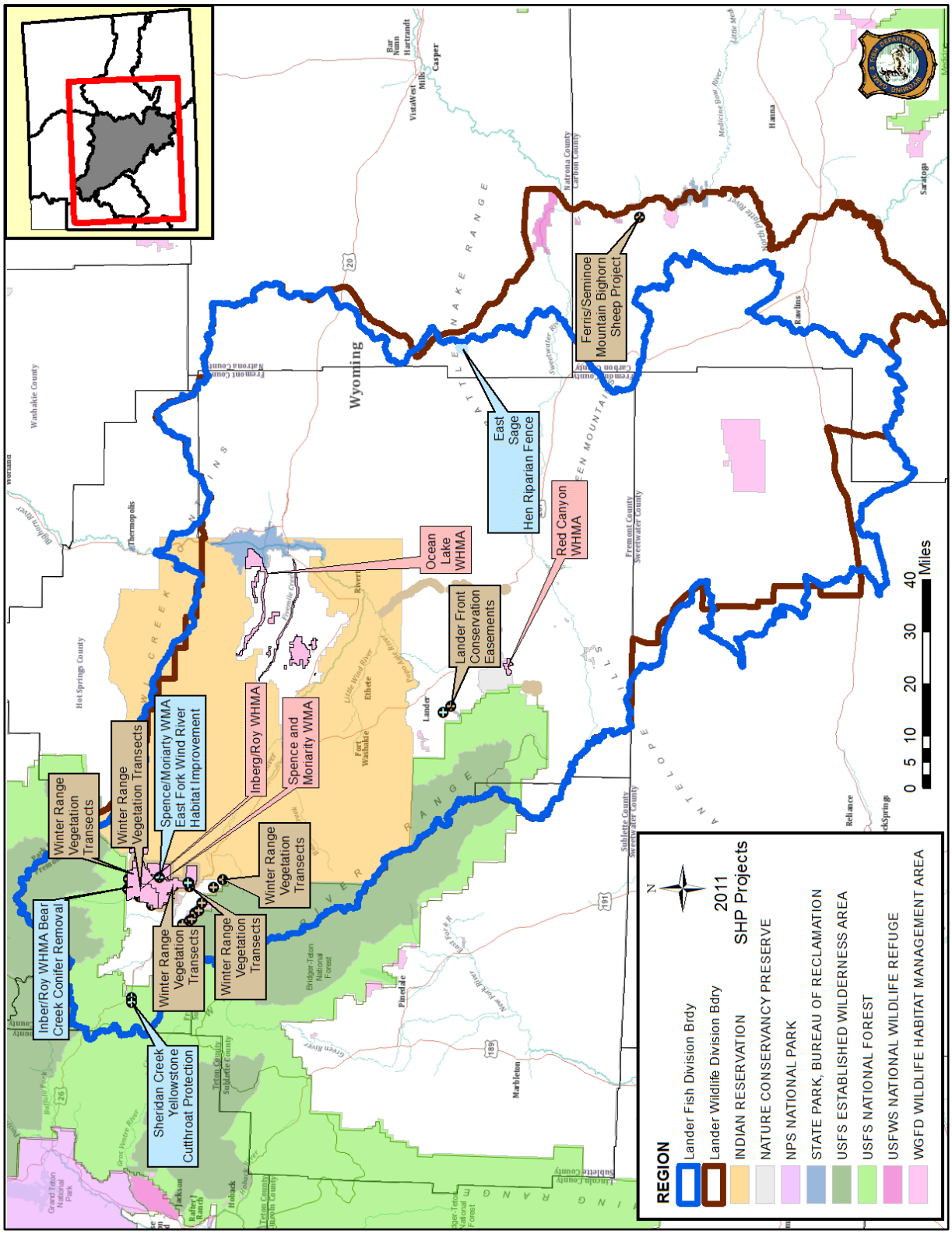
LANDER REGION



LANDER REGION HIGHLIGHTS

- Worked with BLM to build a 455 acre exclosure to improve riparian habitat on East Sage Hen Creek
- Assessed movements of 121 fish in Sheridan Creek relative to a potential natural barrier for future cutthroat trout conservation efforts
- Transplanted over 350 willows to stabilize streambanks and provide overhead cover for fish
- 140 acres were seeded on Duncan Bench on the Spence/Moriarity WMA
- Some of the bighorn sheep transplanted on the Seminoe Mountains were fitted with GPS collars to collect location, movement and habitat use information
- 45 acres of conifer were removed from riparian habitat along Bear Creek on the Inberg/Roy WHMA
- Farming continued at Sand Mesa in the three pivot fields and fields four and five where corn was planted

Sheridan Creek Yellowstone Cutthroat Protection (Goal 1) – Nick Scribner

Sheridan Creek, a tributary to the Wind River northwest of Dubois, offers potential for expanding the range of Yellowstone cutthroat trout in Wyoming. With non-native trout like rainbow and brook trout in downstream areas, a barrier would need to be in place to isolate the pure populations in the headwaters before restoration stocking could occur. In 2008, the lower section of Sheridan Creek was identified as a possible location for a barrier to block upstream movement of non-native fish, which would allow YSC to be restored above the barrier and provide an additional seven miles of YSC occupied habitat to its range. Following field measurements in 2008 and 2009, it appeared a high-gradient Sheridan Creek reach may be a natural barrier to trout movement. If so, restoration stocking could be pursued without building an expensive barrier.

Movements of trout and whitefish relative to the high-gradient reach (Figure 1) were evaluated by capturing and radio-tagging 20 fish and fin clipping 111 fish in Sheridan Creek northwest of Dubois. In October 2010, 14 brook trout and 6 cutthroat trout were radio-tagged and released approximately 0.75 miles downstream from the high-gradient reach and were located monthly through October 2011. Additionally, 21 trout were marked and released at the same location as the radio-tagged fish during 2010 and 90 fish were marked with fin clips and released directly below the high-gradient reach during 2011. Four radio-tagged fish moved over 0.5 miles upstream from the release site and were located within 100 yards of the high-gradient reach, but no radio-tagged fish were ever observed upstream from the

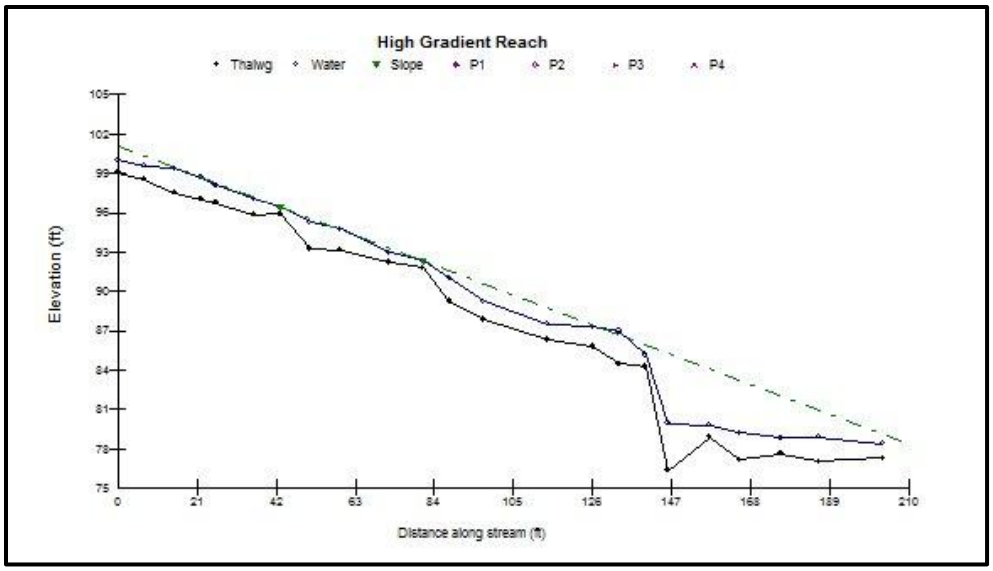


Figure 1. Profile of the high gradient stream reach on Sheridan Creek. The green dashed line represents the water surface slope of 10.6%, which runs for approximately 140 feet between flatter stream reaches.

high-gradient reach. Radio-tagged trout had a small home range, generally remaining within 2.5 miles of their release site and moved both upstream and downstream from the release location. Some of the fish that moved down Sheridan Creek moved into the Wind River where some went upstream and some went downstream. Maximum home range size was 5.3 miles, but most (66%) of the home range sizes were less than 2.5 miles. Only one of the 111 fin-clipped fish was recaptured during subsequent electrofishing surveys. It was recaptured approximately 100 yards downstream from the high gradient reach. Based on our observations, it appears fish are not moving upstream through the high-gradient reach, though further investigations are needed.

Ferris/Seminoe Mountain Sheep Project (Goal 1) - Justin Clapp, Ron Lockwood

Three successful bighorn sheep translocations costing approximately $115,000 were conducted from 2009-2010 to augment the waning Ferris/Seminoe Mountain bighorn sheep herd unit. GPS collars placed on some of the bighorn sheep to collect movement, locations and habitat use data has been acquired from these releases during the past two years. Many habitat issues have been identified within the Seminoe Mountain area, including shrub over-maturity and/or decadence, lack of structural and age stratification, reduction in the amount, vigor and nutritional quality of grasses and forbs and conifer encroachment limiting travel corridors to available habitats. These issues are thought to be caused by a lack of fire and grazing throughout the area, specifically in the Morgan Creek WHMA, which has been excluded from livestock grazing for the past 48 years.

The Rawlins BLM conducted a prescribed burn in the spring of 2011 on a portion of the Ferris Mountains, with the treatment covering a portion of bighorn sheep habitat. Costs associated with the completion of this habitat alteration were approximately $110,000. After analyzing a portion of the GPS data, it was found that translocated bighorn sheep utilized only a minimal amount of the modeled "high quality" habitat in the area. Future GPS collared bighorn sheep monitoring will help determine the effectiveness of prescribed burns on sheep habitat and lamb production. Other objectives include refined modeling of habitat selection patterns and identifying habitat use patterns of introduced bighorn sheep.

The BLM received $40,000 from RMEF to assist with the first burn on Seminoe Mountain, planned for spring 2011. However, this planned burned was taken care of by Mother Nature as a wildfire occurred during the summer of 2011. The summer 2011 wildfire was ignited by a lightning strike on the Ferris Mountains (Figures 2 and 3). The fire was started in the proposed project area. In close

Figure 2. Ferris Mountain wildfire summer, 2011 pre-burn.

Figure 3. Ferris Mountain wildfire summer, 2001 post-burn.

consultation with the WGFD, the BLM allowed the fire to burn naturally. Hopefully in the future this will set a precedence to allow natural ignitions to achieve management goals at a fraction of the cost of prescribed ignition. The Rawlins BLM is to be commended for having the foresight and commitment to allow this natural ignition to burn while considerable public opinion was opposed to it. This truly reflects a commitment to Wyoming's wildlife resource. A second burn is scheduled for 2012.

Lander Front Conservation Easements (Goal 1) – Nick Scribner, Brad Hovinga, Stan Harter, Ron Lockwood

Regional personal provided The Nature Conservancy (TNC) with assistance on funding applications, support letters and wildlife information and worked with two willing landowners to consider conservation easements on 3,579 acres of private land in the Lander Region. TNC acquired an option to purchase these properties and is currently fundraising for purchase and easement costs. After purchase, TNC will place a conservation easement on these lands to protect the area from development. The two ranches are adjacent to one another and are contiguous to the Shoshone National Forest and BLM lands. There are 5,500 acres currently under a conservation easement in the area and other efforts are underway to secure additional conservation easements adjacent to these ranches to ensure encroaching development does not diminish the value of the Lander Front to wildlife. These ranches are highly sought after for homes and small ranchettes due to the views and proximity to Lander.

These conservation easements will provide protection of crucial wildlife habitat, water quality and maintain migration routes and traditional agricultural uses of the land. The area is classified as crucial winter range for South Wind River elk, South Wind River mule deer and Lander moose and portions are within designated core sage-grouse habitat. These properties contain 9 miles of rivers/streams and 106 acres of wetlands and ponds.

Inberg/Roy WHMA (Goal 2) – Brian Parker, Silas Deselms, Skye Shaw

Phase 1 of the Dennison Meadows pipeline and restoration was completed during the fall of 2010. Approximately 4,500 feet of transport ditch was converted to buried pipeline. Phase 2 began in the spring of 2011 when two of the four meadows were re-farmed with palatable, drought-tolerant herbaceous species and field spreader ditches were replaced with gated pipe (Figures 4 and 5). An analogous treatment for the remaining two meadows will begin in late summer/fall of 2012. Pipeline installation will greatly increase water use efficiency, which will benefit Yellowstone cutthroat trout, while meeting needs of supplemental forage production for wintering elk.

Figure 4. Dennison Meadows farming, April 2011.

Figure 5. Dennison Meadows new seeding, July 2011.

Inberg/Roy WHMA Bear Creek Conifer Removal (Goal 2) – Nick Scribner

In 2009, a conifer removal project began along Bear Creek on the Inberg/Roy WHMA to enhance deciduous vegetation, increase soil moisture and invertebrate biomass and thereby improve aquatic habitat. To date, more than 90% of the 50 acre project area has had conifers removed (Figure 6). In 2011, more than 80 trees were cut and hauled out of Bear Creek by the statewide H&A crew. These trees were stockpiled along the East Fork Wind River for use as woody debris jams in the East Fork Wind River habitat project. Most of the trees cut were between 25-40 feet tall and heavily branched, which provide excellent overhead cover as in-stream habitat. Additional cutting may be done in 2012 to provide additional trees for the East Fork Wind River habitat project.

Figure 6. Before and after conifer removal on the 50 acre project area along the Bear Creek on the Inberg/Roy WHMA.

East Sage Hen Riparian Fence (Goal 2) – Nick Scribner

Assistance was provided to the BLM on the installation of a riparian exclosure project on East Sage Hen Creek northeast of Jeffrey City (Figure 7). The goal is to restore the cold water brook trout fishery of East Sage Hen Creek by building a riparian protection fence to exclude livestock grazing on approximately 455 acres. A viable brook trout fishery was present prior to the extensive drought from 2000-2007 and intense grazing pressure. This exclosure will encourage the growth of woody species, such as willows, and allow seedlings and younger plants to become established. The objective of establishing the woody species is to provide habitat for the reintroduction of beaver to this stream, which will maintain habitat over the long term. Range materials necessary to construct the riparian exclosure were provided by the BLM and maintenance responsibility will be assigned to the grazing

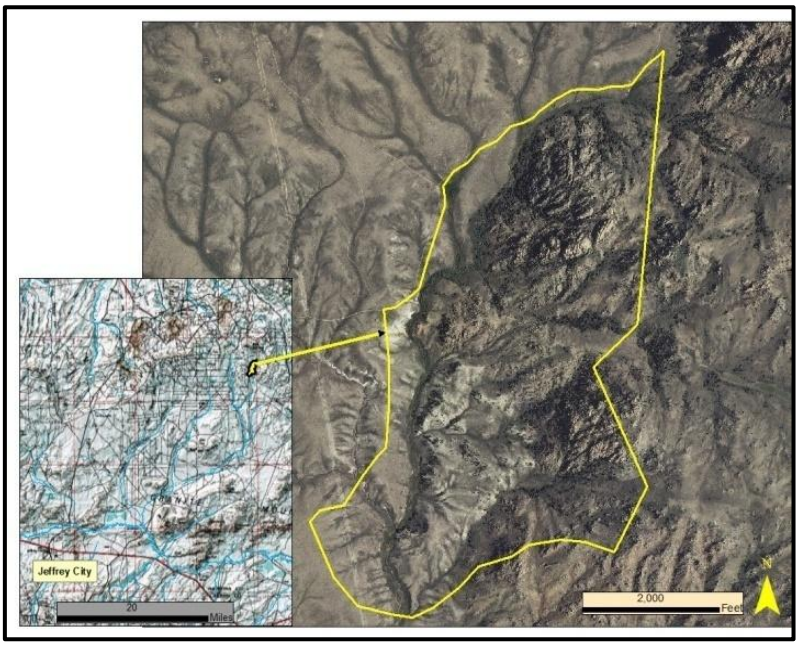


Figure 7. Approximate location of the riparian exclosure on East Sage Hen Creek.

permittee. A crew from the Wyoming Conservation Congress spent 10 days in June building the fence, though it was not enough time. Due to other BLM priorities, the fence was not completed in 2011, but additional crews and time will be spent in 2012 to complete the fence and establish monitoring stations.

Spence Moriarity WMA East Fork Wind River Habitat Improvement (Goal 2) – Nick Scribner

Approximately 1,100 feet of streambank were worked on in 2011 at four locations on the East Fork Wind River near Dubois. The primary concerns addressed were bank erosion, overhead cover and pool habitat for fish. More than 100 trees, 250 boulders and 250 willow and cottonwood cuttings were used in two different methods to improve aquatic habitat conditions. One method secured trees to the streambank using cable, stakes and large rock. The trees and rock will absorb the force of the water, reducing bank erosion, as well as provide cover and assist with the formation of deeper pools. The other method, called toe-wood, involved burying trees under stream bed material topped with willow cuttings and sod mats around a bend of the river that had eroded past the WGFD property fence (Figure 8). The weight of the material on the trees keeps them from floating while they absorb the energy of the stream against the bank. The sod mats provide immediate vegetation that can establish roots to further stabilize the streambank. Though maintenance was needed on these structures after the high flows of 2011, local fishermen reported high success catching fish near this habitat work.

Figure 8. Completed 'toe-wood' structure on Spence/Moriarity WMA. The fence was hanging in the air 15 feet away from the bank prior to construction.

South Pass Aspen/Willow Habitat Improvement (Goal 2) – Ron Lockwood

Aspen and willow **s**tand assessments and inventories began in summer 2010 for future improvement near Atlantic City. The WGFD is cooperating with the BLM and USFS to improve aspen communities by removing encroaching conifers. This project will not only improve wildlife habitat, it will also improve watershed function and riparian health. In 2011, the Department funded and contracted an archaeological survey on portions of the area. The survey has been completed and is awaiting final review and concurrence from the Wyoming State Historic Preservation Office. The information will be used by BLM and USFS to meet NEPA requirements and prepare environmental assessments to implement aspen/willow enhancement projects. The environmental assessments are scheduled for 2012 with treatments to follow. Additional inventories will be completed in future years to expand the project.

Spence/Moriarity Duncan Bench (Goal 2) - Silas Deselms, Brian Parker, Ron Lockwood

The WGFD will be implementing a ten-year management plan to improve lands on the Spence/Moriarity Wildlife Management Area. The area is crucial winter range for elk, deer, moose, pronghorn and bighorn sheep. Specific areas of improvement include habitat restoration, increased noxious weed management and improvement of irrigated meadows that provide winter forage. This multi-year project began in fall 2011 with reseeding over 140 acres on Duncan Bench (Figure 9) that

in the past was a large (over 1,000 acre) irrigated field. Irrigation has been removed from this site for several years and it was in need of reseeding with drought tolerant grasses beneficial for wintering wildlife. In an effort to make the project a success, WGFD personnel consulted with local landowners to help develop a dry land seed mixture that would work in the area. This project will enhance wildlife habitat, improve landowner relationships in the area and control noxious weeds.

Figure 9. Drilling seed on the Duncan Bench of the Spence/Moriarity WMA.

Ferris Mountain Leafy Spurge (Goal 2) - WLCI

This project is a continuing project from 2009, when monitoring showed an infestation of invasive species, primarily leafy spurge and whitetop, in the Wilderness Study Area and adjacent Hogback ridges. The project benefits the Wilderness Study Area native vegetation, sage-grouse and other native wildlife. In 2011, 760 acres were treated with herbicides, 200 acres were monitored and another 200 acres were assessed for the prevalence of the weed species. Partners include the BLM, grazing permittees and Carbon County.

Lander Front Mule Deer Habitat Improvement (Goal 2) – Ron Lockwood, Stan Harter

Approximately 1,200 acres of cheatgrass management were scheduled for herbicide treatment with Plateau in fall of 2011 on private lands owned by five different landowners. However, weather conditions precluded aerial application. The herbicide has been ordered, landowner agreements finalized, contracted aerial application services have been extended and the treatment is schedule for late summer 2012. Approximately 1,400 acres of dense sagebrush and mixed mountain shrub communities will be improved by applying Spike herbicide at a low rate to reduce sagebrush density on BLM lands in the spring 2012.

Past activities included 425 acres of juniper thinning, 200 acres of Russian olive and salt cedar removal and resprouts chemically treated on Beaver Creek and 500 acres of sagebrush mowed to stimulate grass and forb growth. Monitoring information continues to be collected on these treatments and results indicate successful achievement of project goals and improved conditions for mule deer.

Transects established in previous treatments were monitored with positive results. Juniper sites had an average increase in forbs (217%), grasses (85%) and litter cover (98%), as well as a decrease in bare ground (38%). Unfortunately, annuals such as cheatgrass and desert alyssum also increased on average by 118%. This was not an unexpected result as ground disturbance from mastification machinery created some bare ground ripe for annual germination. The amount of cheatgrass resulting from machine disturbance is minimal compared to what would return post fire. A surprising

result in a couple of the juniper treatments was the appearance of currant plants, which provide an excellent source of browse to sheep and mule deer. Birds landing in the branches of juniper dispersed currant seeds and once the competition from the juniper was removed, the currants exploded, growing two feet in one year. Sagebrush treated with Spike also indicated positive results with an increase in forbs (47%) and grasses (103%) and a decrease in bare ground (23%). Litter cover decreased slightly by 7%. Since it was not a mechanical treatment, minimal change in litter cover was expected. Annuals did increase but still remain less than 10% of the total canopy cover.

Winter Range Vegetation Transects (Goal 2) –Ron Lockwood , Greg Anderson

Permanent transect sites (14 transects) to monitor annual vegetation production and winter utilization by elk and bighorn sheep were evaluated in 2010-2011 on the Inberg/Roy WHMA, Spence/Moriarity WMA and the Whiskey Basin WHMA. Measured utilization was 40% on the Inberg/Roy-Spence/Moriarity areas and 47% on the Whiskey Basin area. Utilization levels are below the recommended 60% level, indicating grazing levels on these areas was not exceeded this past year. Additionally, residual cover will provide nesting and brood rearing habitat for a variety of nongame bird and mammal species.

Dubois "Adopt-a-trout" Program (Goal 4) – Nick Scribner

Several days were spent in the classroom and outside with TU to help with the "adopt-a-trout" program in Dubois. The goal of the program is to teach kids about their local watersheds and get them involved with the outdoors, so it was combined with the Sheridan Creek telemetry study. Dubois 4th, 5th and 6th grade classes joined us in the field the day fish were captured and radio tagged to learn and ask questions about various topics such as electrofishing, radio telemetry and tracking fish and fly casting. Following the field day, we followed up with the students so they could "adopt" their fish, which involved naming them and marking their monthly locations on a map we provided them to keep track of the fish movements. Additional time was spent teaching lessons during monthly classroom visits about GPS navigation, fish anatomy, fish passage, macroinvertebrates identification and stream habitat. A total of 48 students participated in the program and thoroughly enjoyed the days TU and WGFD spent in the classroom. They learned new skills and learned about fish, aquatic habitat and how their actions can affect a watershed.

Resource Management Planning (Goal 5) – Ron Lockwood

Lander regional personnel continue to participate as State Cooperators in the Lander BLM Resource Management Plan and the Shoshone National Forest Management Plan revisions. The WGFD provided comments on a wide array of topics and alternatives for wildlife, vegetation, weed control and fire management.

Wildlife Habitat Management Areas – Brian Parker, Silas Deselms, Skye Shaw

- On Ocean Lake WHMA, approximately 40 acres of barley food plots were planted in three fields. The food plot planting was the AIPA payment for the grazing lessee. The grazing lease is a five-year winter rotation used to maintain irrigated meadows and promote waterfowl nesting success. (Goal 2)
- Farming continued at Sand Mesa WHMA in the three pivot fields and field four and five where corn was planted. (Goal 2)
- The WGFD is an active member of the Red Canyon CRM. Cows from the CRM graze the upper and east meadows to remove decadent vegetation and promote vigor and palatability of meadow vegetation for wintering elk. Grazing occurs every other year and is scheduled for spring 2012. (Goal 5)